

REMARKS:

Status Of Application

Claims 20-22, 31-34, 37 and 40-51 are pending in the application; the status of the claims is as follows:

Claims 20-22, 33, 34, 40-42, 47 and 48 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 40-42, 45 and 46 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,034,804 to Sasaki et al (hereinafter the "Sasaki Patent") in view of U.S. Patent No. 4,897,732 to Kinoshita et al (hereinafter the Kinoshita Patent").

Claims 20-22, 33, 43, 44 and 47-50 are rejected under 35 U.S.C. § 103(a) as being unpatentable over of the Sasaki Patent in view of Official Notice.

Claim 34 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the Sasaki Patent, as applied to claim 20 above, further in view of U.S. Patent No. 4,937,676 to Finelli et al (hereinafter the "Finelli Patent").

Claims 31, 37, and 51 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,963,995 to Lang (hereinafter the "Lang Patent") in view of the Sasaki Patent.

Claim 32 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the Lang Patent in view of the Sasaki Patent, as applied to claim 31 above, and further in view of U.S. Patent No. 5,032,927 to Watanabe et al (hereinafter the "Watanabe Patent").

Claim Amendments

Claims 20, 31, 40, 43, 49 and 50 have been amended to more particularly point out and distinctly claim the invention. Claim 45 was amended to correct a grammatical error.

35 U.S.C. § 112 Rejection

The rejection of claims 20-22, 33, 34, 40-42, 47 and 48 under the first paragraph of 35 U.S.C. § 112, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, is respectfully traversed based on the following.

The rejection states that the recitation "the image information outputted from said imaging device ... would be directed to the second memory" is not described in the specification. Applicants respectfully disagree. The rejection notes that image data is stored in internal memory 405 and buffer memory 409 prior to being stored on IC card 2. This is a correct statement of that embodiment of the invention. However, the phrase "directed to the second memory" is not inconsistent with operation of the embodiment of Figure 4. That information is directed to a specified place does not preclude intermediate steps. Therefore, claim 20 and dependent claims 21, 22, 33 and 34 comply with 35 U.S.C. §112.

In addition to the arguments provided above with regard to claim 20, claim 40 has been amended to address the informality where the first connection was connected to both memories. Claims 41 and 42 are dependent upon claims 40. Therefore, claim 40 and dependent claims 41 and 42 comply with 35 U.S.C. §112.

Accordingly, it is respectfully requested that the rejection of claims 20-22, 33, 34, 40-42, 47, and 48 under the first paragraph of 35 U.S.C. § 112, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/ or use the invention, be reconsidered and withdrawn.

35 U.S.C. § 103(a) Rejections

The rejection of claims 40-42, 45 and 46 under 35 U.S.C. § 103(a), as being unpatentable over the Sasaki Patent in view of the Kinoshita Patent, is respectfully traversed based on the following.

The Sasaki Patent shows digital camera 10 using a removable memory card 15. Image output from the camera is transferred from image capture circuitry to buffer memory 31₆ and then transferred to memory card 15. Upon each image capture, directory information from the memory card is fetched (column 9, lines 4-15). This information is used to determine if storage space is available on memory card 15 for the captured image. If there is not sufficient space, the image is held in the buffer memory and an alarm is sounded to alert the user (column 9, lines 20-27). Once a new memory card has been inserted, the image held in the buffer memory is immediately stored in the new memory card (column 9, lines 27-28). There is no suggestion to provide permanent storage in any memory other than a memory card.

The Kinoshita Patent shows a digital camera system using an image pickup section 1 and a disk recording section 2. An image is captured using the image pickup section. The image is temporarily stored in frame memory 7. The image is then transferred to a recording disk 20 in disk recording section 2 for more permanent storage. Recording disk 20 allows for high capacity storage. Using separate image pickup and disk recording sections allows for a relatively light and efficient image pick up section to be combined with high capacity storage.

In contrast to the cited prior art, claim 40 includes,

a first connection adapted to be connected to a first memory;
a second connection adapted to be connected to a second
memory;
...
a buffer memory for temporarily storing image information so
that the stored image information is directed to said second memory
from said buffer memory;

This allows the invention of claim 40 to enjoy the benefits of both internal memory and removable memory (specification page 3, lines 12-22). This combination is neither shown nor suggested by the cited references, alone or in combination. Therefore, claim 40 is patentably distinct from the prior art. Claims 41 and 42 are dependent upon claim 40. Therefore, claims 40-42 are patentably distinct from the prior art.

Also in contrast to the prior art, claim 43 includes,

- a first SRAM memory capable of storing image information corresponding to at least two photographic frames;
- a second SRAM memory, wherein at least one of said first SRAM memory and the second SRAM memory is provided in the camera body;
- a buffer memory for temporarily storing image information so that the stored image information is transmitted to said second semiconductor memory from said buffer memory;

As noted above with regard to claim 40, the apparatus of claim 43 provides the benefits of both internal storage and storage to an external memory. The prior art only show the use of a buffer who's only purpose is intermediate storage. Thus, the invention of claim 43 is neither shown nor suggested by the cited prior art. Therefore, claim 43 is patentably distinct from the prior art. Claims 45 and 46 are dependent upon claim 43. Therefore, the cited prior art does not show or suggest all of the limitations of claims 45 and 46. Thus, claims 45 and 46 are patentably distinct from the prior art.

Accordingly, it is respectfully requested that the rejection of claims 40-42, 45 and 46 under 35 U.S.C. § 103(a), as being unpatentable over the Sasaki Patent in view of the Kinoshita Patent, be reconsidered and withdrawn.

The rejection of claims 20-22, 33, 44 and 47-50 under 35 U.S.C. § 103(a), as being unpatentable over the Sasaki Patent in view of the Official Notice, is respectfully traversed based on the following.

A synopsis of the Sasaki Patent is provided above. In contrast to the Sasaki Patent and the other cited prior art, claim 20 provides,

- a first connection adapted to be connected to a first semiconductor memory;
- a second connection adapted to be connected to a second semiconductor memory;
- a buffer memory for temporarily storing image information so that the stored image information is transmitted to said second semiconductor memory from said buffer memory;

As noted above, the Sasaki Patent and the other cited references do not show or suggest a first and second memories for both internal and external storage along with a buffer memory for intermediate storage. The Sasaki patent only provides an external storage device with an internal buffer for intermediate storage. Thus, the invention of claim 20 is neither shown nor suggested by the cited prior art. Therefore, claim 20 is patentably distinct from the cited prior art. Claims 21, 22, 33, 47 and 48 are dependent upon claim 20. Thus, the cited prior art does not show or suggest every element of claims 21, 22, 33, 47 and 48. Therefore, Claims 20-22, 33, 47 and 48 are patentably distinct from the prior art.

As noted in the quoted passage above, claim 43 includes internal and external memory storage along with a buffer memory for intermediate storage. This is neither shown nor suggested by the cited prior art. Claim 44 is dependent upon claim 43. Thus, the cited prior art does not show or suggest every element of claim 44. Therefore, claims 43 and 44 are patentably distinct from the prior art.

In contrast to the cited prior art, claim 49 includes,

- a first connection adapted to be connected to a first semiconductor memory;
- a second connection adapted to be connected to a second semiconductor memory;

a buffer memory for temporarily storing image information so that the stored image information is transmitted to said second semiconductor memory from said buffer memory;

As noted above, the cited prior art does not show or suggest a camera having first and second memories for selectively storing information along with a buffer memory for intermediate storage. Thus, the cited prior art does not show or suggest every element of claim 49. Claim 50 is dependent on claim 49. Therefore, the cited prior art does not show or suggest every element of claim 50. Thus, claims 49 and 50 are patentably distinct from the cited prior art.

Accordingly, it is respectfully requested that the rejection of claims 20-22, 33, 43, 44 and 47-50 under 35 U.S.C. § 103(a), as being unpatentable over the Sasaki Patent in view of the Official Notice, be reconsidered and withdrawn.

The rejection of claim 34 under 35 U.S.C. § 103(a), as being unpatentable over the Sasaki Patent, as applied to claim 20 above, further in view of the Finelli Patent, is respectfully traversed based on the following.

The Finelli Patent shows an image capture and display system. A separate electronic imaging camera 12 (Figure 4) captures image electronically. The images may be stored on storage device card 130 or printed using hard copy printer 14. The storage device card may be inserted into either slot 132 of the electronic imaging camera or slot 134 of the hard copy printer.

Claim 20, from which claim 34 depends, is quoted above. As noted, claim 20 includes first and second memory connections along with a buffer memory for intermediate storage. This is neither shown nor suggested by the Finelli Patent or the Sasaki Patent alone or in combination. Therefore, claim 34 is patentably distinct from the prior art.

Accordingly, it is respectfully requested that the rejection of claim 34 under 35 U.S.C. § 103(a), as being unpatentable over the Sasaki Patent in view of the Finelli Patent, be reconsidered and withdrawn.

The rejection of claims 31, 37, and 51 under 35 U.S.C. § 103(a) as being unpatentable over the Lang Patent in view of the Sasaki Patent, is respectfully traversed based on the following.

The Lang patent shows a system for transferring video information (VCR-ET). Input is derived from an analog video recording unit (AVRU) 11, other analog video sources (15, 16) or digital transmissions (17, 18). The information is converted to a digital format, if not already in digital format, and is compressed for storage on memory 13 (column 4, line 63 – column 5, line 24). Memory 13 is internal memory that may use one of several technologies (column 6, lines 8-22). Of importance, there is no suggestion that the internal memory can or should be removable. After the compressed information is stored in memory 13, a blank tape is inserted in to AVRU 11. The information in memory is then decompressed and converted to analog signals for storage in the tape in AVRU 11 (column 9, lines 23-30). In one embodiment, compressed digital information from memory 13 may be transferred to another VCR-ET via telephone lines (column 9, line 55 – column 10, line 6).

In contrast to the cited prior art, claim 31 provides,

- a first reception unit to receive a removable memory card;
- a second reception unit to receive a memory device having a relatively large capacity;
- a signal processor to decompress the compressed digital image information, stored on a memory card removably received by the first reception unit, to a decompressed digital information; and
- a recorder to record the decompressed digital image information on the memory device.

The rejection states that it would have been obvious to modify the system of the Lang patent by substituting the removable memory of the Sasaki patent for the fixed memory of the Lang patent. This is not supported by the disclosure of the Lang patent. Memory 13 is solely used for intermediate storage. It is unusual for main memory to be removable. In addition, in the Lang patent, several storage media, including digital storage are disclosed. In spite of the existence of memory cards, as evidenced by the Sasaki patent, memory cards are never mentioned in the Lang

patent. This suggests strongly that memory card storage was not considered a viable alternative.

This conclusion is buttressed by the fact that the Lang patent contemplates the storage and transfer of video information. As noted in the Lang patent, the storage needs for digital video are huge (column 5, lines 9-24). Even with compression techniques, a video requires approximately 250 megabytes of storage (column 5, line 24). The highest density memory circuit at the time of the priority of this application was the 16 megabit dRAM. Eight chips is required for each byte (without parity). It would require 16 eight chip sets to provide 250 megabytes. That totals 128 integrated circuits. This number of integrated circuits is much more than can reasonably be included in a memory card. In addition, dRAMs are not suitable for use with memory cards because the data in them must be refreshed. Memories with suitable technologies for a memory card are even less dense than dRAMs. In summary, one skilled in the art would have concluded that the memory card of the Sasaki patent would have been wholly inadequate for use with the system of the Lang patent. Thus, one skilled in the art at the priority date of this application would not have combined the teachings of these references as suggested in the rejection. Therefore, the combination as claimed in claim 31 is not shown nor suggested in the cited prior art. Claim 37 is dependent on claim 31. Therefore, the cited prior art does not show or suggest every element of claim 37. Thus, claims 31 and 37 are patentably distinct from the cited prior art.

Accordingly, it is respectfully requested that the rejection of claims 31, 37, and 51 under 35 U.S.C. § 103(a), as being unpatentable over the Lang Patent in view of the Sasaki Patent, be reconsidered and withdrawn.

Also in contrast to the cited prior art, claim 51 provides a method of ,

- receiving image information from a memory card received within the first reception unit;
- restoring received image information to original image information originally obtained in a photographing operation; and
- recording restored image information on a memory device received within the second reception unit.

As noted above, the combination of the Lang and Sasaki patents as suggested by the rejection is not feasible. Therefore, the cited references cannot be combined to show or suggest the method of claim 51.

The rejection of claim 32 is under 35 U.S.C. § 103(a) as being unpatentable over the Lang Patent in view of the Sasaki Patent, as applied to claim 31 above, and further in view of Watanabe Patent, is respectfully traversed based on the following.

Claim 31, from which claim 32 depends, is quoted above. As noted, the combination of claim 31 is not shown or suggested by the cited references when the references are properly construed. Because the elements of claim 31 are not shown or suggested by the cited prior art and claim 34 includes all of the elements of claim 31, the cited prior art does not show or suggest every element of claim 34. Therefore, claim 34 is patentably distinct from the prior art.

Accordingly, it is respectfully requested that the rejection of claim 32 under 35 U.S.C. § 103(a), as being unpatentable over the Lang Patent in view of the Sasaki Patent, and further in view of Watanabe Patent, be reconsidered and withdrawn.

CONCLUSION:

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley & Austin Deposit Account No. 18-1260.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document

is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

The following is a marked-up version of the changes to the claims which are being made in the attached response to the Office Action dated April 9, 2001.

IN THE CLAIMS:

20. (Seven Times Amended) A camera comprising:

a camera body;

an imaging device to conduct a photographing operation, wherein following a photographing operation said imaging device outputs image information;

a first connection adapted to be connected to a first semiconductor memory;

a second connection adapted to be connected to a second semiconductor memory;

a buffer memory for temporarily storing image information so that the stored image information is transmitted to said second semiconductor memory from said buffer memory;

a recorder which stores image information, output from said imaging device, on one of the first semiconductor memory and the second semiconductor memory;

a detector to detect a memory condition; and

a changer, coupled to said detector, to selectively change between a first condition, in which image information outputted from said imaging device [would be] is directed to the first connection for storage on a connected first semiconductor memory, and a second condition, in which image information outputted from said imaging device [would be] is directed to the second connection for storage on a connected second semiconductor memory based on a detected condition by said detector.

31. (Four Times Amended) An editing device for [a camera capable of receiving] use with a memory [card,] card having a relatively small capacity and for storing image information taken by a camera, in which the camera processes original

image information obtained in a photographing operation [in a manner suitable] to convert to digital image information and to compress for storage in the memory card and further stores such [processed] compressed image information on the memory card, the editing device comprising:

a first reception unit to receive a removable memory card;

a second reception unit to receive a memory [device;] device having a relatively large capacity;

a signal processor to [restore processed] decompress the compressed digital image information, stored on a [removable] memory card removably received by the first reception unit, to [original] a decompressed digital information; [image information obtained in a photographing operation;] and

a recorder to record the [restored original] decompressed digital image information on the memory device.

40. (Six Times Amended) A camera comprising:

a camera body;

an imaging device to conduct a photographing operation, wherein following a photographing operation said imaging device outputs image information;

a first connection adapted to be connected to a first memory;

a second connection adapted to be connected to a second memory;

a recording device to store image information on one of the first memory and the second memory;

a detector to detect an available memory capacity and to output a signal representative of a result of such a detection; and

a buffer memory for temporarily storing image information so that the stored image information is directed to said second memory from said buffer memory;

a first changer to selectively change between a first condition, in which image information outputted from said imaging device [would be] is directed to the first connection for storage in [a connected] the first memory, and a second condition, in which image information outputted from said imaging device [would be] is directed to the [first connection for storage in a connected] second memory[, based on an output signal from the detector];

a reproduction device to receive and reproduce image information stored on and outputted from one of [a connected] the first memory and [a connected] the second memory; and

a second changer to select [a memory from a connected] one of the first memory and [a connected] the second memory to provide image information to the reproduction device for reproduction.

43. (Five Times Amended) A camera comprising:

a camera body;

an imaging device to conduct a photographing operation, wherein following a photographing operation said imaging device outputs image information;

a first SRAM memory capable of storing image information corresponding to at least two photographic frames;

a second SRAM memory, wherein at least one of said first SRAM memory and the second SRAM memory is [being] provided in the camera body;

a buffer memory for temporarily storing image information so that the stored image information is transmitted to said second semiconductor memory from said buffer memory;

a recording device provided within the camera body for selectively storing image information on one of the first SRAM memory and the second SRAM memory;

a detector to detect a condition of one of the first SRAM memory or the second SRAM memory; and

a changer, [coupled to said detector and] provided within the camera body, for causing said recording device to selectively change from a first condition, in which image information outputted from said imaging device is stored on the first SRAM memory, and a second condition, in which image information outputted from said imaging device is stored on the second SRAM memory based on a detected condition of one of the first SRAM memory and the second SRAM memory.

45. (Three Times Amended) A camera according to Claim 43, further comprising:

a reproduction device to reproduce image information stored on a selected one of the first SRAM memory and the second SRAM memory; and

a changer provided within the camera body to cause said reproduction device to selectively change between a third condition, in which image information stored on said first SRAM memory is [output] outputted from said first SRAM memory to the reproduction device for reproduction, and a fourth condition, in which image information stored on said second SRAM memory is [output] outputted from said second SRAM memory to the reproduction device for reproduction.

49. (Once Amended) A camera comprising:

a camera body;

an imaging device to conduct a photographing operation, wherein following a photographing operation said imaging device outputs image information;

a first connection adapted to be connected to a first semiconductor memory;

a second connection adapted to be connected to a second semiconductor memory;

a buffer memory for temporarily storing image information so that the stored image information is transmitted to said second semiconductor memory from said buffer memory;

a recorder which stores image information, output from said imaging device, on one of the first semiconductor memory and the second semiconductor memory;

a detector to detect a memory condition; and

an alarm mechanism to alert a user of a detected memory condition.

50. (Once Amended) A camera according to Claim 49, wherein the selected status [memory condition] concerns memory capacity, and the alarm mechanism alerts the user whether an available memory capacity is below a threshold value.